



## CLAIMS

What is claimed is:

- 1 Claim 1. (CURRENTLY AMENDED) – Apparatus [10] to facilitate surface
- 2 treatment of articles of manufacture [12] of the type having a given
- 3 handling surface [14], said apparatus comprising:
- 4
- 5 a releasable gripping structure ~~[16]~~ [13] for supporting, in a stable
- 6 position, an article of manufacture [12] of the type having a given
- 7 handling surface [14];
- 8
- 9 a source [18] of elongate stem elements [20], said source being
- 10 positioned to align a given one of said elongate stem elements [20] with
- 11 the elongate axis [22] thereof in a predetermined orientation relative to
- 12 said given handling surface of said ~~plastic~~ article of manufacture;
- 13
- 14 an advancing mechanism [24] for advancing a free end [34] of said
- 15 given elongate stem element [20] into contact with said given handling
- 16 surface [14] of said plastic article [12]; and
- 17
- 18 a securing mechanism [26] for fixedly attaching said free end [34] of
- 19 said given elongate stem element [20] to said given handling surface
- 20 [14] of said plastic article [12], such that said stem element thereafter

21 fixedly extends from said handling surface to serve as a handle for  
22 manipulating and supporting said article.

1 Claim 2. (CURRENTLY AMENDED) - Apparatus in accordance with Claim  
2 1 wherein:

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4 said source of elongate stem elements [18] comprises a reel [36] of  
5 coilable plastic rod material [38] defining a substantially continuous  
6 supply of elongate stem elements [20], said rod material having a  
7 captive end retained in association with said reel and a free end [40]  
8 defining said one end [34] of said given one of said stem elements [20].

1 Claim 3. (ORIGINAL) - Apparatus in accordance with Claim 1 wherein:  
2 said source of elongate stem elements [18] comprises a plastic extrusion  
3 processor for extruding a plastic stem of predetermined dimensions.

1 Claim 4. (ORIGINAL) - Apparatus in accordance with Claim 3 wherein:  
2 said advancing mechanism comprises an assembly for axially receiving  
3 said extruded stem element from said extrusion processor and axially  
4 advancing said stem element into contact with said article of  
5 manufacture.

1 Claim 5. (ORIGINAL) - Apparatus in accordance with Claim 1 wherein:  
2 said source of elongate stem elements [18] comprises a hopper-feed

3 assembly capable of being loaded with a plurality of said stem elements  
4 for axially advancing one such element at a time into a predetermined  
5 position.

1 Claim 6. (ORIGINAL) - Apparatus in accordance with Claim 1 wherein:  
2 both said article of manufacture and said stem element are formed of  
3 plastic, and  
4 said securing mechanism comprises an ultrasonic welding assembly.

1 Claim 7. (ORIGINAL) - Apparatus in accordance with Claim 1 wherein:  
2 both said article of manufacture and said stem element are formed of  
3 plastic, and  
4 said securing mechanism comprises a chemical bonding assembly.

1 Claim 8. (ORIGINAL) - Apparatus in accordance with Claim 1 wherein:  
2 both said article of manufacture and said stem element are formed of  
3 thermoplastic material, and  
4 said securing mechanism comprises a heating element to form a  
5 thermoplastic bond.

1 Claim 9. (ORIGINAL) - Apparatus in accordance with Claim 1 wherein:

2 said stem element is formed of metal having deformable barbs thereon,  
3 and  
4 said securing mechanism comprises a force-fitting assembly for defining  
5 said barbs within said article.

1 Claim 10. (ORIGINAL) - A method for facilitating manipulation of  
2 articles of manufacture during surface treatment processing, comprising  
3 the steps of:  
4 [100] firmly gripping said article of manufacture in a given position;  
5 [200] aligning an elongate processing stem in physical  
6 contact with said article of manufacture at a given point of contact; and  
7 [300] physically attaching said processing stem to said article of  
8 manufacture at said given point of contact, such that said processing  
9 stem can be used as a handle for manipulating and supporting said  
10 substrate article.

1  
1 Claim 11. (ORIGINAL) - The method of claim 10, wherein:  
2 said processing stem is formed of plastic material; and  
3 said attaching step comprises thermal bonding of said stem to said  
4 article of manufacture at said given point of contact.

1 Claim 12. (ORIGINAL) - The method of claim 11, wherein:  
2 both said article of manufacture and said processing stem are formed of

3 plastic material.

1 Claim 13. (ORIGINAL) - The method of claim 10, wherein:  
2 one end of said stem is bent at an angle relative to the other end thereof  
3 to achieve a desired orientation of said stem relative to said article.

1 Claim 14. (ORIGINAL) - The method of claim 10, wherein:  
2 said processing stem is formed of suitably deformable metal; and  
3 said attaching step comprises axially pressing a portion of said stem into  
4 the body of said substrate article and deforming said stem within said  
5 substrate article to form a mechanical bond between said body of said  
6 article and said portion of said stem.